CHUCK E. CHEESE OPERATOR'S MANUAL

CEC Version 2 / JUN2015

WARNING

READ THIS OPERATION MANUAL BEFORE USING THIS MACHINE TO ENSURE SAFE OPERATION

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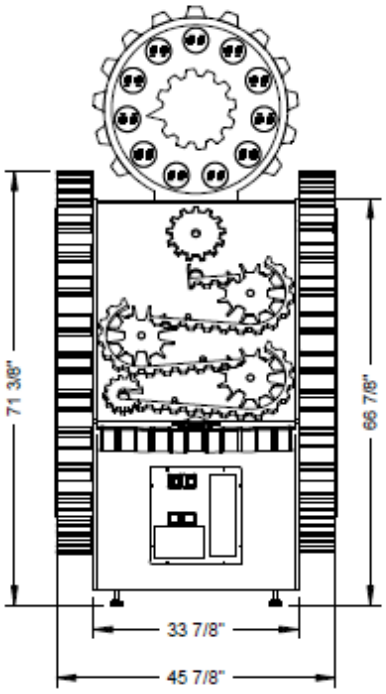
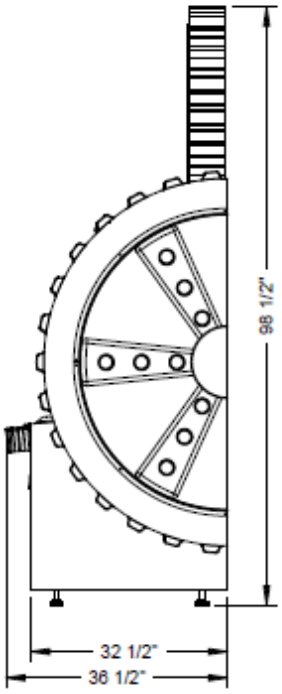
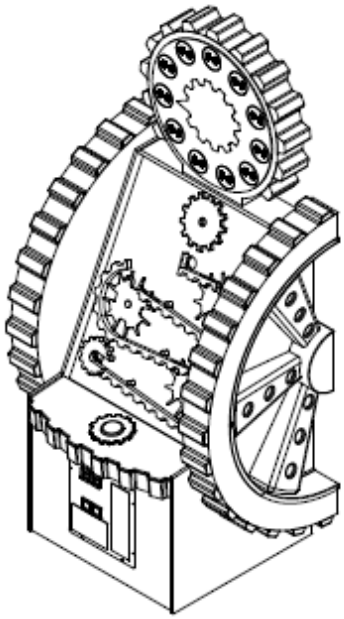
1. SPECIFICATIONS:

RATED POWER SUPPLY	**Domestic (United States): 110V ±10V / 1.5A / 165W** **Export: 220V ±10V / .75A / 165W**
DIMENSIONS	**Length: 60 in. (152.4 cm); Width: 46 in. (116.84 cm); Height: 98.5 in. (250.19 cm)**
WEIGHT	**611 lbs. (277.11 kg) (WITHOUT SEAT) / 645 lbs. (293.18 kg)**

Note: Game parameters are subject to change without notice







NOTE: Marquee removes for shipping.

Seat Available Option (Not Pictured)

2. INTRODUCTION:

2.1 Overview:

Thank you for purchasing the new **Gear It Up™** from Bob's Space Racers®. Built on a long tradition of value, the new **Gear It Up ™** retains all of the great game play you have come to expect of a game from BSR, and is specifically designed for today's Arcade environment. **Gear It Up™** uses technology specifically developed for this game.

This owner's Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, servicing control, spare parts, etc. pertaining to the game.

To Maintain Safety:

This manual is intended for the owner, personnel and managers in charge of operation of the product. Before operating this product, we highly recommend carefully reading and fully reviewing this instructional guide. If the product fails to function satisfactorily, **non-technical personnel should under no circumstances perform any kind of repair internally**.

To ensure the safe usage of the product, be sure to read the following before using the product. The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning display and cautions, handle the product appropriately. Be sure to keep this operation manual nearby the product or elsewhere convenient for referring to it when necessary.

Warnings, Cautions, and notes used within these instructions are explained as follows:

- A **WARNING** refers to a procedure or practice that, if not followed correctly, could result in injury, long term health hazards, or death.
- Below is a list of **WARNING** labels found throughout this manual and on the Gear It Up™ game:

WARNING

ATTENTION

NOTE (or) **NOTICE:**

- A **NOTE** refers to a procedure or condition that requires emphasis.

NOTE:

ONLY QUALIFIED TECHNICAL PERSONNEL SHOULD WORK ON THIS GAME. FAILING TO COMPLY CAN CAUSE SEVERE INJURY.

2. Introduction (Continued):

2.2 Important Safety Information:

IMPORTANT SAFETY INFORMATION

WARNING

Unplug the game from the AC wall receptacle when servicing this product. Failure to do so could result in serious injury or death.

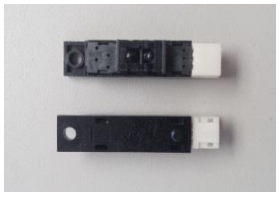
Use only a **GROUNDED AC** receptacle. Failure to do so could result in improper operation or damage to the game and could void your warranty. If you are unsure that your AC receptacle is properly grounded, have a qualified electrician perform this check for you.

Ensure power to the game is turned off when performing even the slightest of routine maintenance, otherwise, moving parts could activate unexpectedly, causing injury.

This product is heavy, necessitated by the design. We recommend at least two people when moving or relocating the game. Use a suitable dolly or hand truck where practical. Use back support when needed.

3. PACKAGE CONTENTS:

This game comes prepackaged with the following **GAME UNIT ACCESSORIES**:

Item	Content	Specification	Picture	Quantity
1	Manual	ENGLISH	N/A	
2	Power Cord	5' – 10A/125V		1 pc
3	Fuse	5A – Domestic 3A – Export		1 pc
4	Key	Key #: 3172		2 pcs
5	Key	Key #: 3157		1 pc
6	Bolts	Bonus Wheel Marquee Bolts		4 pcs
7	Photo sensor	Photo sensor		2 pcs
8	Seat Base and Accessories **(Optional)**	Seat Base and Accessories **(Optional: Not included unless specified)**		1 Base 1 Seat Assembly 1 Pack of Hardware

4. INSTALLATION:

ATTENTION

RECOMMENDED FOR INDOOR USE!

This machine is designed for indoor use only.

Never install this machine outdoors or in any of the following:

- Locations exposed to direct sunlight
- Locations subject to rain or water leakage
- Unstable locations or locations subject to vibration
- Dusty, hot, or humid locations

4.1 Parts List Verification:

Check the parts list prior to installation. Verify that all parts that have been received and are in good condition.

4.2 Play Zone Requirements:

This machine requires space for operating the game. It is recommended to leave approximately 12 inches (300mm) on all sides for proper operation.

4.3 Maintenance Considerations:

This machine requires periodic maintenance that will require access to the rear access panels of the game. It is recommended to leave a space of approximately 2-3 feet behind the game to allow for such maintenance.

WARNING

- **Be sure to check the ELECTRICAL SPECIFICATIONS. Ensure that this product is compatible with your locations power supply, voltage and frequency requirement.**
- **A plate describing ELECTRICAL SPECIFICATIONS is attached on the backside of the product. Non-compliance with the ELECTRICAL SPECIFICATIONS can cause a fire and electrical shock.**
- **Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.**
- **Be sure to plug the game into the proper A.C. GROUNDED receptacle. Do not use long extension cords unless absolutely necessary and if so, be sure it is a heavy duty cord of at least 16 Ga. and no longer than 20 ft. Check the label on the back of the game to make sure the power requirements of the game match that of your location.**

4. Installation (Continued):

4.4 Crated Game Contents:

1. If you receive the GEAR IT UP™ Arcade Game crated, it will arrive like the picture to the left, except it will be protected by cardboard as well.
2. Below is a list of contents:

FRONT OF GAME:

Seat **(Available Option)**

Marquee Top (Bonus spinner Wheel)

Parts Box

REAR OF GAME:

Seat base **(Available Option)**

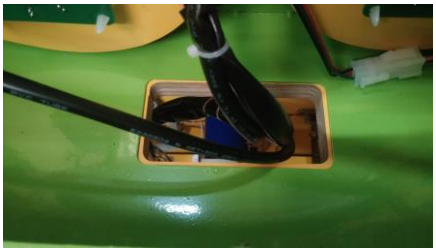
4. Installation (Continued):

4.5 Installing the Marquee:

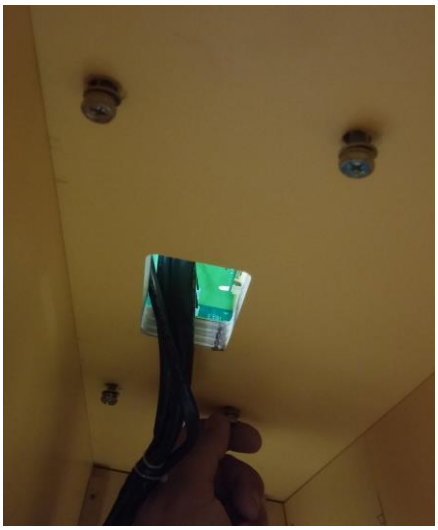
- **Tools needed to install the marquee: #2 Phillips head screwdriver**

1. Remove the top rear access panel of the game cabinet to gain access to the needed wiring harness.
2. Two people are recommended when raising the marquee into place and then holding it in place until the marquee is secured.

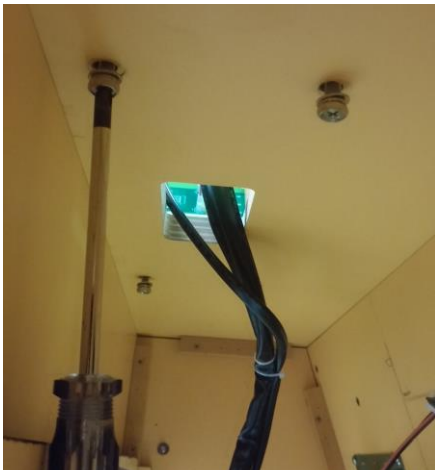
3. Pull the loose wiring harness from the bottom of the marquee and feed it through the provided opening on the top of the game cabinet.
4. Stand the marquee up; ensure not to pinch the wires when doing so.



5. Line up the access holes opening between the marquee and the top of the cabinet.



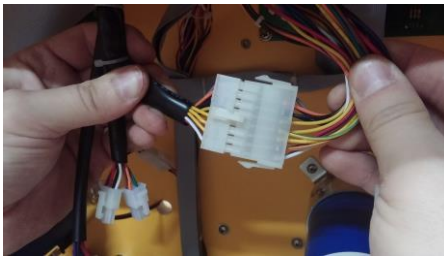
6. Tighten all four BONUS WHEEL MARQUEE BOLTS by hand one by one to loosely secure the marquee to the top of the game cabinet.



7. Fully tighten the BONUS WHEEL MARQUEE BOLTS using a #2 Phillips head screwdriver until the bolts are snug against the top of the cabinet.

4. Installation (Continued):

4.5 Installing the Marquee (Continued):



8. There will be (4) four wire harness plugs connecting the marquee to the game cabinet:
    - (1) One 16-pin connection; both male and female plugs.
    - (1) One 6-pin connection; both male and female plugs.
    - (1) One 4-pin connection; both male and female plugs.
    - (1) One 3-pin connection; both male and female plugs.
9. Connect all four plugs coming from the marquee to the game cabinet. Ensure all plugs are properly seated.
10. Replace the top rear access panel and secure.

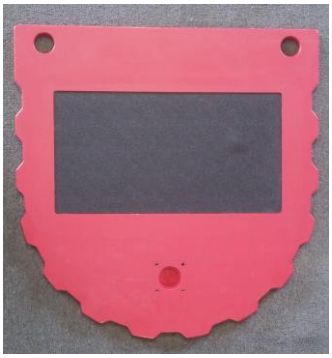
Number of Pins on the Connector	Pin Use	Troubleshooting Notes
3-Pin Plug	Connects Marquee Sensor	If there is a bad connection at the 3-Pin Plug, the Main Board will not read the sensor and Error Code “E15” appears on the left display.
4-Pin Plug	Connects the Marquee Spinner Motor	Without power to the motor, the spinner will not turn and Error Code “E15” appears on the left display.
6-Pin Plug	Connects the Marquee outside LED gear lights	If disconnected, the outside gear lights of the marquee will not light
16-Pin Plug	Connects the Marquee Bonus Amount LED lights	If disconnected, the Marquee Bonus Amount LED lights do not light.

4. Installation (Continued):

4.6 Assembling and Installing the Seat Base (Optional; if seat is included with game)

- Tools needed to assemble the seat: 7/16” Open-ended wrench
- Game Parts Needed: Seat, Seat Base, and Included Hardware

SEAT

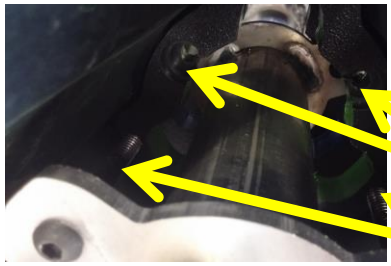


SEAT BASE

HARDWARE

1. Line up the seat flange through holes with the seat base threaded holes.

2. Once the holes between the seat flange and the seat base are lined up, start the 7/16” bolts and washers by hand as pictured.
3. Once all four bolts are started by hand, tighten the bolts with the 7/16” open-ended wrench until snug.



4. Once seat base is secure, drop the green flange cap down to where the holes line up with the securing bolts and slide the green flange cap all the way down.

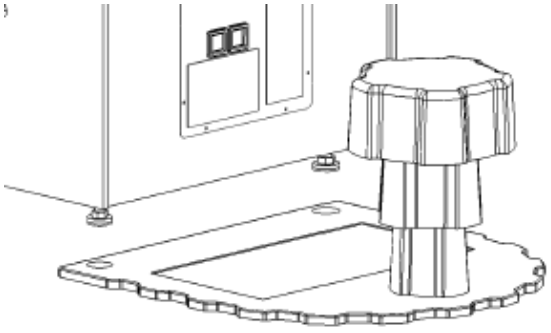
GREEN FLANGE CAP THROUGH HOLES

SECURING BOLTS

5. Once the green flange cap is place, secure the flange cap using (3) three sets of washers and star nuts, and tighten with the 7/16” open-ended wrench until snug.

4. Installation (Continued):

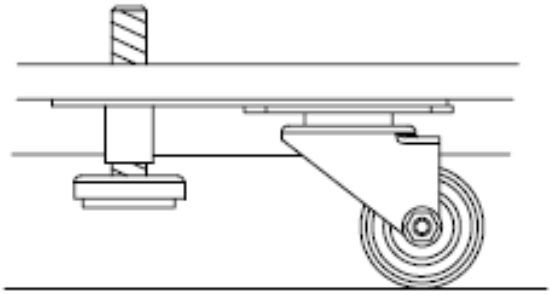
4.6 Assembling and Installing the Seat Base (Continued):



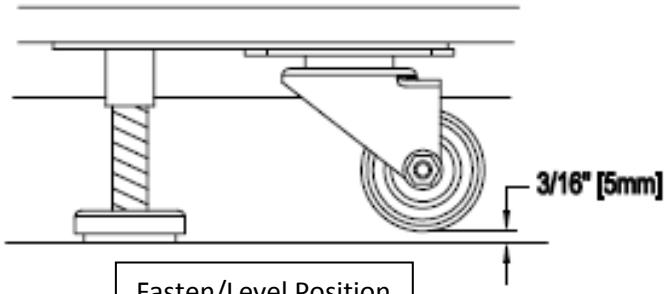
6. Once the seat is secure to the seat base, slide the seat base under the leveling feet of the game. There are two large through holes that the leveling legs will pass through to secure the seat base to the game.

4.7 Game Leveling:

- **Install this game on a flat surface. Adjust levelers to lift the legs and to level the game.**
- **Make sure that the machine is level with the floor. If the machine is not level, the game may not play well.**



Move Position



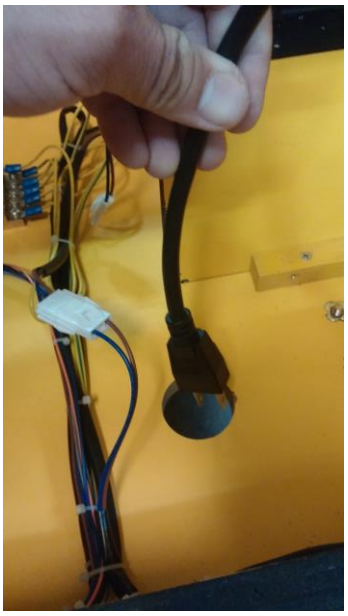
Fasten/Level Position

WARNING

- Disconnect game power before moving
- Make sure all wheels are intact. Replace any wheels that are damaged or broken before moving the game.
- When moving the game, DO NOT slide the game across the floor
- Ensure the game is level before connecting the power

5. Connecting the Power Cord

1. Remove the bottom rear access panel.
2. Plug the power cord into the power input panel, located on the bottom right corner on the rear of the game.

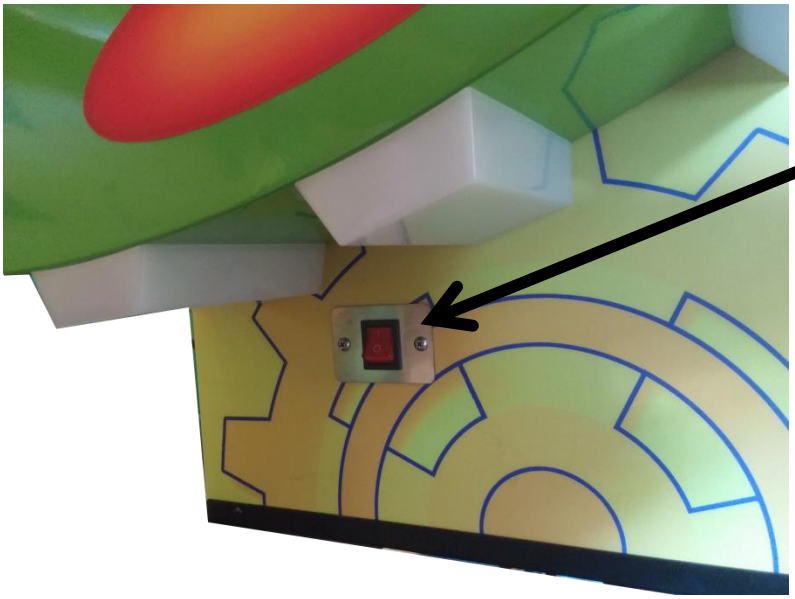


3. Insert the plug through the cord access hole at the base of the cabinet.

4. Run the remainder of the power cord through the cord access hole at the base of the game cabinet, located underneath the power input panel. Turn inner game power switch to the "ON" position.

NOTE: The inner power switch should always remain in the "ON" position, and the outer power switch should be used to power the game on and off on a daily basis.

5. Connecting the Power Cord (Continued)

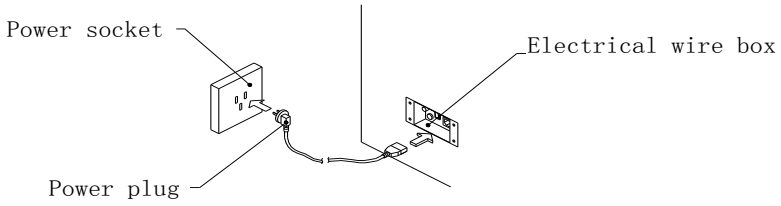


Exterior Power Switch

See Figure on page 18 for detailed location of Exterior Power Switch.

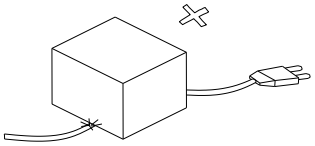
5. The inner power switch should always remain in the “ON” position, and the outer power switch should be used to power the game on and off on a daily basis.

5. Connecting the Power Cord (Continued):

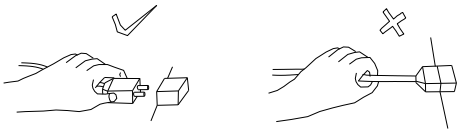


WARNING

- **Do not** put heavy items on power cord.

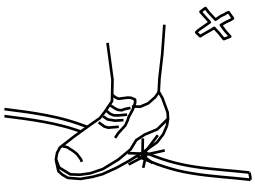


- Hold the plug instead of the wire to draw the power cord out of the socket.



- **Do not** touch the power cord with wet hands.

- **Do not** place the cord where the player can easily trip over or come in contact with it.

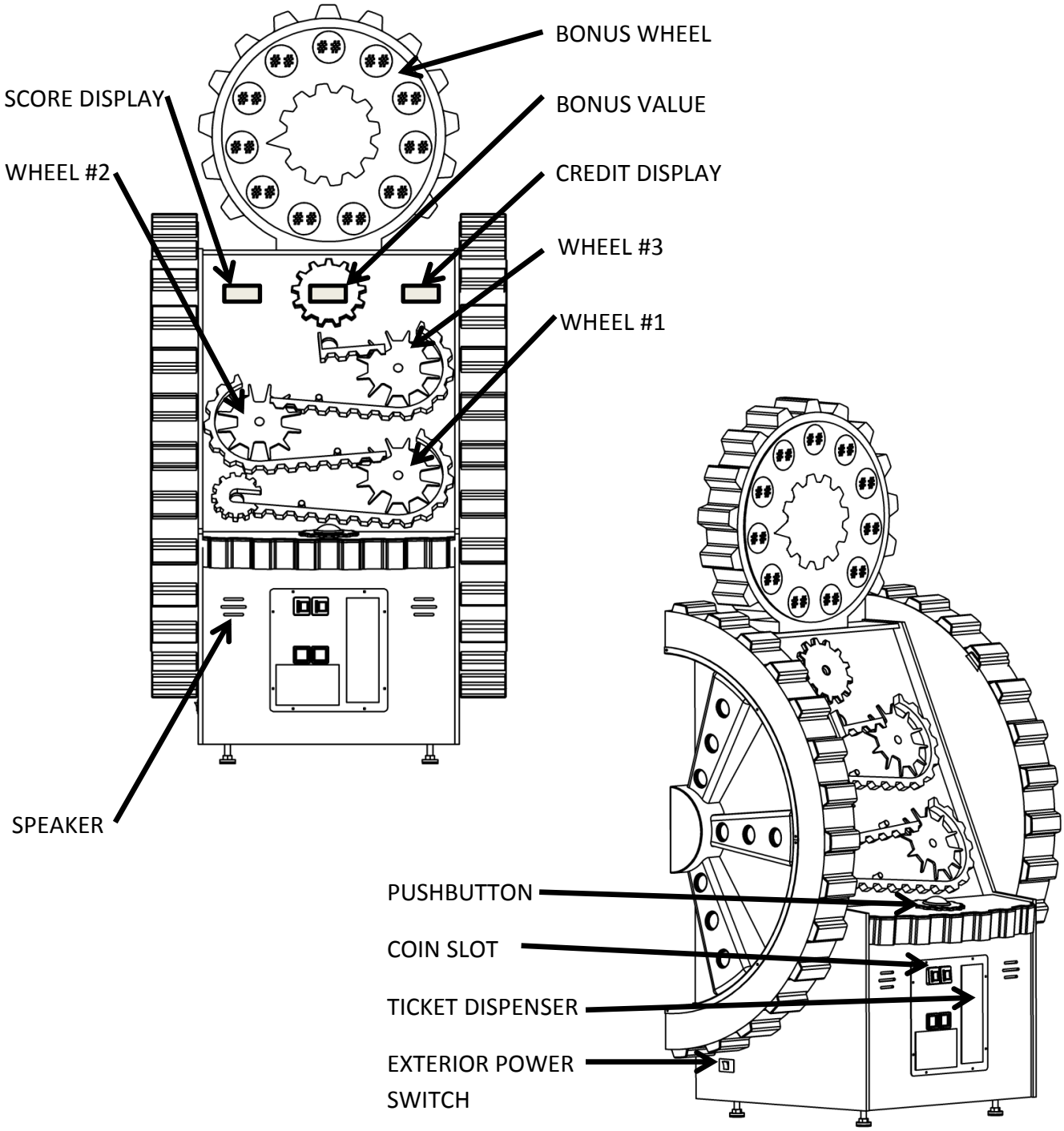


- **Do not draw or twist the cord or place near a heat source.**

- **Operate this game with the correct power and fuse configuration.** *(The machine's supply Voltage is **110VAC or 220VAC**, please refer to the label on the machine, connecting the actual supply voltage. Failure to do so can cause electric shock or equipment damage.)*

6. Instructions for Play:

1. Aim for “UP” gear slots.
2. Push button to drop ball.
3. Raise ball to top to win a chance at BONUS SPIN.
4. Press button to stop BONUS SPIN and try to stop gear on BONUS to win.



7. Mechanical Coin and Ticket Meters:

The Mechanical Coin and Ticket Meters are located directly behind the coin mech door.

Mechanical Coin Counter:

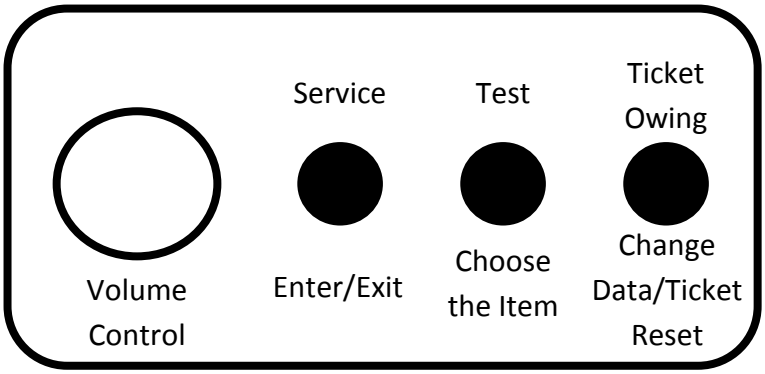
A non-resettable mechanical meter that records the amount of coins the game has taken.

Mechanical Ticket Counter:

A non-resettable mechanical meter that records the amount of tickets the game has distributed.

8. Option Setting Controls and Option Settings Chart:

The Options Settings Controls are located directly behind the coin mech door, underneath the Mechanical Meters.



***NOTE: The Option Address will appear in the "Tickets Won" Display and the Option Values will appear in the "Bonus Tickets" Display.

Option Setting Buttons:

Refer to Options Settings Chart on next page for descriptions of options and option range values.

1. Press the Red "SERVICE" Button on the OPTION SETTINGS CONTROLS panel to enter the options settings
2. Press the "TEST" button to scroll through the option registers.
3. Press the "TICKET OWING" button to change the value of the currently selected option address.
4. When finished, press "SERVICE" button to save the data in the MCU and exit.

8. Standard Option Setting Controls and CEC Specific Option Settings Chart (Continued):

No.	Item: Option Address	Content	Range (Option) Values	Default Option Values
1	P01	Coin per credit (if P01=00 means free game)	00 – 04	1
2	P02	Ball per credit	01 – 04	1
3	P03	Score per ticket (if P03=00, no ticket will be dispensed)	00 – 25	5
4	P04	Bonus Initial Value (if P04=10, increase progressively)	00 – 150	100
5	P05	Bonus Value Increase (if P05=00, without increasing)	00 – 10	1
6	P06	Bonus Maximum Value (if P06=10, increase progressively)	000 – 500	200
7	P07	Bonus Marquee Header (if P07=00, stop automatically; if P07=01, press the button to stop)	00 – 01	1
8	P08	Bonus Value Memory (P08=00, No Memory; P08=01, with memory)	00 – 01	1
9	P09	Demo Music (P09=00, Demo Music Off; P09=01, Demo Music On)	00 – 01	1
10	P10	Demo Time (P10=00, Demo Time Off; P10=01, Demo Time Increases Progressively)	00 – 120	30
11	P11	Tickets of the Ball Hole; When the ball misses the 1st Gear (from the bottom up)	00 – 10	5
12	P12	Tickets of the Ball Hole; When the ball misses the 2nd Gear (from the bottom up)	00 – 10	5
13	P13	Tickets of the Ball Hole; When the ball misses the 3rd Gear (from the bottom up)	00 – 10	5
14	P14	The 1st round, win tickets	00 – 50	5
15	P15	The 2nd round; win tickets	00 – 50	5
16	P16	The 3rd round; win tickets	00 – 50	5
17	P17	Time of Ball Release(s) (P17=00, No time setting)	00 – 50	20
18	P18	Score Group of the Turntable on top. A: P18=00; Bonus, 03, 05, 02, 03, 04, 15, 03, 04, 05, 02 B: P18=01; Bonus, 04, 08, 06, 05, 07, 25, 05, 08, 06, 03 C: P18=02; Bonus, 20, 30, 40, 20, 100, 20, 40, 30, 20, 15 D: P18=03; Bonus, 30, 40, 50, 30, 100, 30, 50, 40, 30, 20	00 – 03	2
19	P19	Hard Drive Test (Does not save the test data) P19=01; Test the ticket dispenser P19=02; Test Solenoid #1 (from the bottom up) P19=03; Test Solenoid #2 (from the bottom up) P19=04; Test Solenoid #3 (from the bottom up) P19=05; Test Gear Turntable #1 (from the bottom up) P19=02; Test Gear Turntable #2 (from the bottom up) P19=02; Test Gear Turntable #3 (from the bottom up)	00 – 07	0
20	P20	Bonus Auto Stop Time (P20=00, Bonus Wheel does not stop)	00 – 60	20
21	Pr	Factory default (Pr=01, press the “EXIT” button to reset to factory default settings)	00 – 01	0
NOTE: HIGHLIGHTED FIELDS ARE RECOMMENDED PAYOUT ADJUSTMENT SETTINGS				

9. Maintenance and Inspection:

General Maintenance Information:

- Due to the design of the machine, periodic maintenance is required.

- Start the game and verify the correct operation before putting the game into daily operations.

- Clean all surfaces of the game as needed.

- After one month of game operation, ensure all internal and external parts are secure and in proper working order.

1. Remove power prior to servicing game.
To avoid a short circuit, the power must be removed before touching the inside of the game.
2. Choose the appropriate replacement parts.
Using the wrong parts could lead to malfunction or damage to the game and components.
3. Do not substitute or change equipment, without authorization.
Doing so could lead to a short circuit and machine malfunction, or fire.
4. Do not put any containers of liquid, cups or soda cans on the machine. In addition, chemicals or heavy items should not be allowed around the game.
Any spill could cause a short circuit. Falling items could injure people or damage the machine.

CLEANING - Clean the outer surfaces of the game with a general purpose spray type cleaner. DO NOT however, use glass cleaner or commercial sprays on the marquee graphic panel. Use a quality spray type furniture polish to keep the game looking new. Use a quality glass cleaner to clean and polish the glass portions of the game. Vacuum the inside of the game occasionally to help keep the dust and ticket debris off of all the optical sensors.

10. Maintenance and Inspection (Continued):

Recommended Maintenance Schedule:

Daily Maintenance	
COIN MECH	Check that the coin mech is working properly.
TICKET DISPENSER	Check if the ticket dispenser has tickets and is working properly.
PUSHBUTTON	Check that the pushbutton is functioning properly.
SOUND	Check if the game has proper sound.
CABINET	Clean the cabinet with water or general purpose cleaner and a soft cloth.
GLASS	Clean the glass with window cleaner and absorbent towels.

Weekly Maintenance	
TUBES	Make sure the ball return tubes are securely fastened .
HARNESSES	Make sure all connectors are securely fastened.
GEARS	Make sure the retaining bolts on all gears are securely fastened.

Monthly Maintenance	
Lights	Check for bad light bulbs and replace.
Game function	Check for proper game function and repair as needed.

11. Troubleshooting:

WARNING

For your safety, and to reduce risk of damage to your game; read the Important Safety Information in Chapter 2 before attempting any troubleshooting procedure.

11.1 Troubleshooting Philosophy:

When troubleshooting any product, certain general guidelines should be followed.

1. Always check to be sure that the game is turned on. Ensure that all of the fuses in the game are functional and check to see that the AC voltage is in the proper operating range for the game.

2. Ensure that all of the game harnessing is plugged in properly and that all of the pins are firmly seated in the connectors. There is always possibility that a harness can be damaged by rough shipping or moving.

3. Check game harnessing and ensure that none of the wires have been damaged. Using a handheld multi-meter, check for continuity of the wiring to make sure there are no open wires or breaks.

4. Check for visible damage to the P.C. Boards or electrical components.

5. If you have multiple games or multiple parts within the game, change or exchange the parts and see if the problem goes away or moves to the other game or component. This way you can quickly eliminate certain parts as being the problem with the game.

6. When changing electronic or electrical components, ALWAYS turn off and unplug the game.

7. Ensure that all power supplies are delivering the specified voltages to the P.C. Boards and components as specified in this manual.

11. Troubleshooting (Continued):

11.2 Troubleshooting Guide:

SYMPTOM	POSSIBLE PROBLEM	POSSIBLE SOLUTION
Marquee spinner continuously spins	- Bad connection - Input sensor is not reading - The left digital display reads “E15” - Faulty wiring harness to sensor	- Check connections and repair as needed - Check and/or repair wiring harnesses and plugs for the sensor control - Replace sensor
Marquee spinner does not spin	- Bad connection - No power to the motor - The left digital display reads “E15” - Faulty wiring harness to spinner motor	- Check connections and repair as needed - Check and/or repair wiring harnesses and plugs for the motor - Replace motor
Sound Problems: - Low sound - No Sound - Intermittent Sound	- Low Volume - Bad connection - Faulty speaker - Faulty sound board or sound board harnessing - Faulty speaker harnessing - Faulty Main PC Board or component	- Check Volume Control and adjust as needed - Check connections and/or repair harnessing - Check and/or replace speaker - Check connections and/or replace sound board - Check and/or replace Main PC Board
Game does not take or add money properly	- Coin switch out of adjustment - Coin mech dirty or improperly adjusted - Bad connection - Faulty coin switch - Game improperly programmed - Faulty coin switch harness or connector - Faulty Main PC Board	- Re-bend coin switch wire - Clean and adjust mech as needed - Check connections and repair as needed - Check and/or replace switch - Check programming options and adjust - Check and/or repair harnessing - Replace Main PC Board
Ticket dispenser not working properly or no tickets being dispensed.	- No tickets in the game - Tickets jammed in the dispenser - Ticket dispenser sensor blocked with debris - Poor connection on the ticket dispenser - Game improperly programmed - Faulty ticket dispenser - Faulty ticket dispenser harnessing - Faulty Main PC board	- Refill ticket dispenser - Clear ticket jam - Clean off sensor - Check and/or repair/replace connection - Check ticket programming options - Replace ticket dispenser - Check and/or repair harnessing - Replace or repair Main PC Board
No power to the game.	- Game power off - Electrical power switch off - Main fuse blown - Power supply problem or failure - Faulty PC board or component	- Check ON/OFF switch and power cord - Turn on power switch - Check and/or replace fuse - Check power supply output and connections - Repair and/or replace Main PC Board
Game stops or is stopped with nothing displayed	- The power connector is disconnected - Possible faulty connection or short circuit	- Reconnect the connector - Check all circuitry for faulty connections or short circuits

11. Troubleshooting (Continued):

11.3 Troubleshooting Guide – Gear Strength Troubleshooting

Problem:

1. Gear stops when the ball gets to the gear or gets stuck on the gear tooth.
2. Gear stops rotating randomly or "jitters" back and forth.

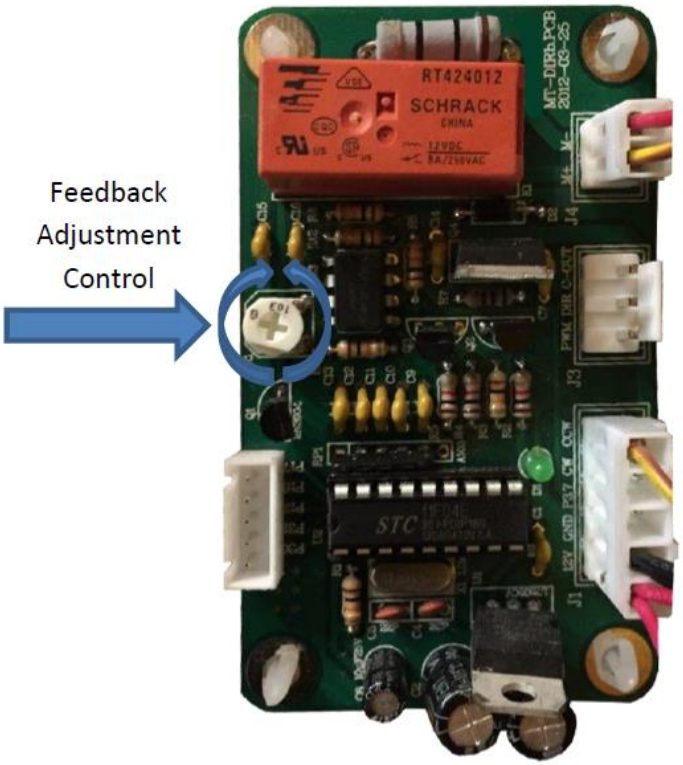
Solution:

Adjust the feedback resistance on an ***individual gear driver board*** (each gear will have one driver control board) for the GEAR IT UP™ arcade game:

1. If the gear stops the ball and does not release, then the feedback tolerance is set too high. Using a #2 star (Phillips) type screw driver, turn the **Feedback Adjustment Control** knob counter-clockwise to decrease the feedback tolerance and the gear releases the ball.

2. If the gear stops rotating randomly or "Jitters" back and forth, then the feedback tolerance is too low. Using a #2 star (Phillips) type screw driver, turn the **Feedback Adjustment Control** knob clockwise to increase the feedback tolerance and the "Jitters" stop on the gear.

NOTE: The green LED on the DC motor controller will turn on when the motor goes in reverse. If the LED turns on and off rapidly or erratically, then the feedback tolerance is set too low and adjust **Feedback Adjustment Control** *clockwise*. If a ball gets jammed in the gear and the green LED does not turn on, then the feedback tolerance is set too high and adjust the **Feedback Adjustment Control** *counter-clockwise*.



Gear Driver Board

TIP:

- Below is the recommended starting position for the **Feedback Adjustment Control** knob.

  Feedback Adjustment Control Knob
  Flat surface of knob is facing down.

- Adjust **Feedback Adjustment Control** Knob counter-clockwise if ball is getting stuck in gear teeth.

11. Troubleshooting (Continued):

11.4 Troubleshooting Guide – Marquees Spinner Troubleshooting

Problem:

1. The Marquee Spinner does not line up properly or "slips" during gameplay.
2. The Marquee Spinner makes contact with the front marquee Plexiglas.
3. The Marquee Spinner does not line up properly or "slips" during gameplay due to a loose set collar on the motor shaft.
4. The Marquee Spinner makes contact with the front marquee Plexiglas due to the set collar is set too far from the motor.

Solution:

Adjust the set collar for the marquee spinner for the GEAR IT UP™ arcade game:

Procedures:

1. Remove the spinner carriage from the rear of the marquee by loosening the four rear bolts on the outside of the marquee and lift up on the spinner carriage.
2. Detach the two wiring harnesses connecting the spinner carriage.
3. Lay the spinner carriage on a clean, flat surface with the spinner facing up.
4. Remove the three bolts on the face of the spinner. *(See Figure 1)*
5. Remove the four screws securing white backplate located behind the Spinner. *(See Figure 2)*
6. Without removing the sensor or sensor wiring harness, lay the white backplate over to expose the spinner set collar. *(See Figure 3)*

Figure 1: Removing the spinner face

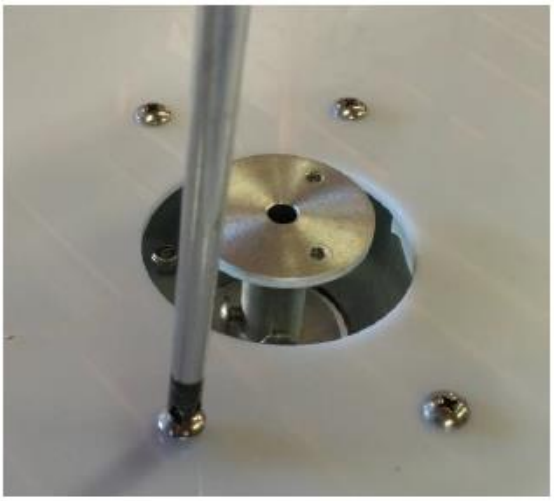


Figure 2: Removing the Spinner Backplate

Figure 3: Laying the white backplate over

11. Troubleshooting (Continued):

11.4 Troubleshooting Guide – Marquees Spinner Troubleshooting (Continued)

7. Remove the set collar by loosening the two set screws on the side of the set collar. *(See Figure 4)*
8. Pull the set collar off and note the position of the two flat slots on the motor shaft. *(See Figure 5)*
9. Place the set collar back onto the motor shaft, lining up the screw heads with the flat slots on the motor shaft.
10. Position the bottom of the set collar to 1/16" from the motor face and tighten the screws so that the screws make contact with both slots and are firmly secured. *(See Figure 6)*
11. Replace the white backplate and spinner face.
12. Reattach the wiring harness from the spinner carriage and marquee. Use caution when reattaching the wiring harness from the spinner carriage and marquee, and make sure that all pins are seated properly.
13. Replace the spinner carriage on the back of the marquee and tighten the four screws.
14. Replace the marquee to the top of the game.

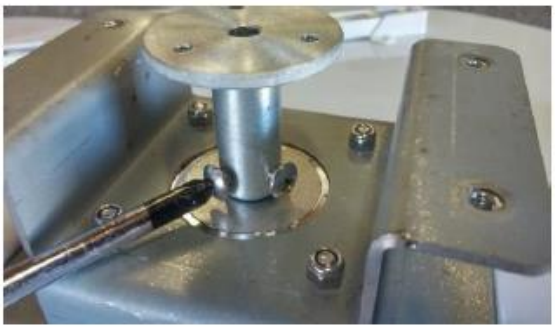


Figure 4: Removing the set collar

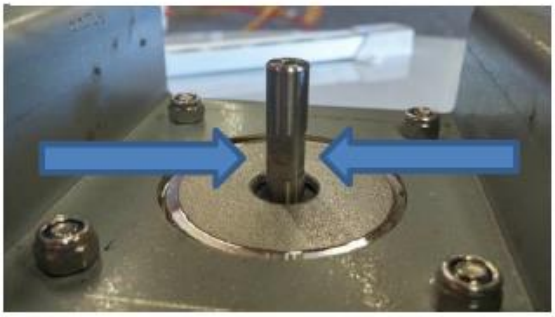


Figure 5: Flat surfaces on motor shaft

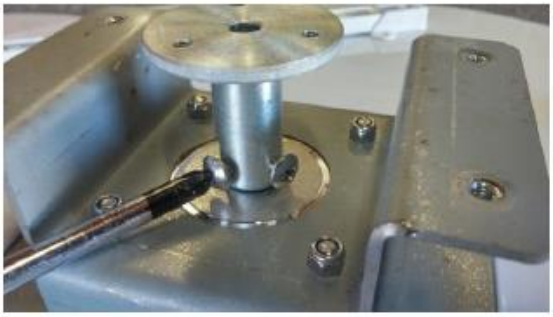


Figure 6: Replacing the set collar on the motor shaft

11. Troubleshooting (Continued):

11.5 Troubleshooting Guide – Connection Troubleshooting

Problem:

1. The game displays the following error code:
   - Err 15
2. Bonus Wheel Score LEDs do not light.
3. The outside "sprockets" of the Bonus Wheel do not light.

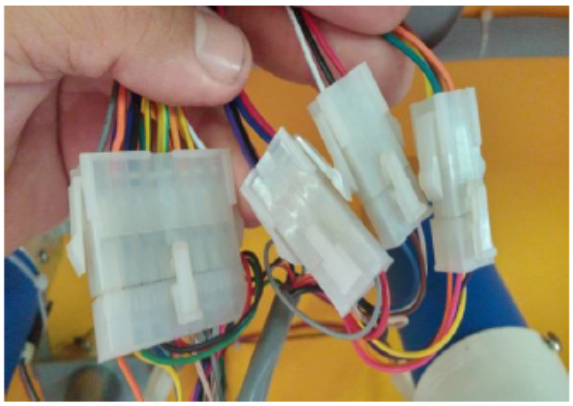


Figure 1: Pin Connectors

Solution:

1. Check wiring harness connections where the marquee plugs into the game base.

Note: There are four plugs that connect the Marquee to the game base: (See Figure 1)

- (1) 3-Pin Connector: Controls home position sensor on the spinner
- (1) 4-Pin Connector: Controls stepper motor
- (1) 6-Pin Connector: Controls outside LED "sprockets"
- (1) 16-Pin Connector: Controls bonus wheel score LED's

Procedures:

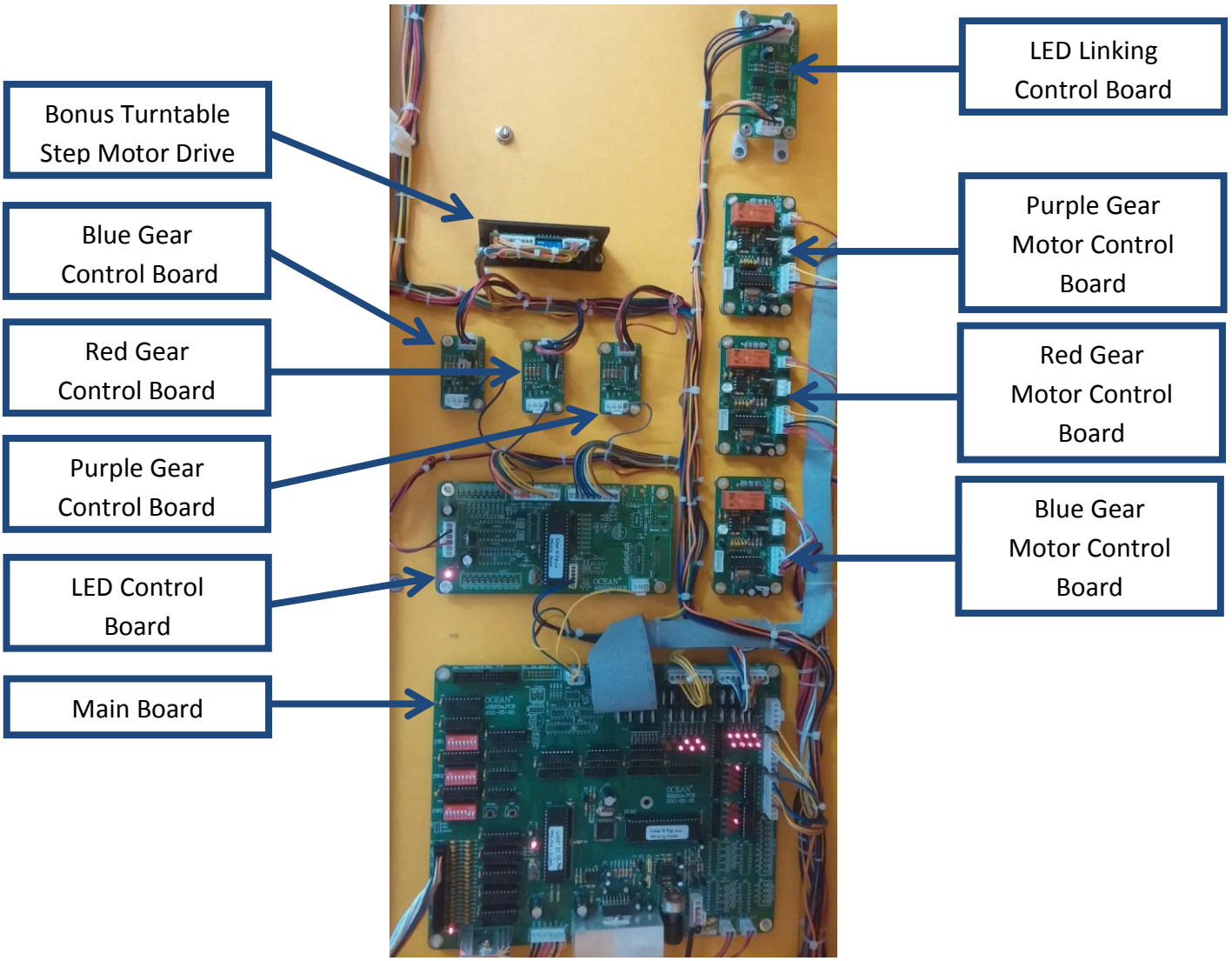
1. Remove the top back panel from the game base.
2. Inspect the four wiring harness plugs connecting the marquee and game base for apparent loose connection problems, bad pin crimps, etc. and repair as needed.

Troubleshooting:

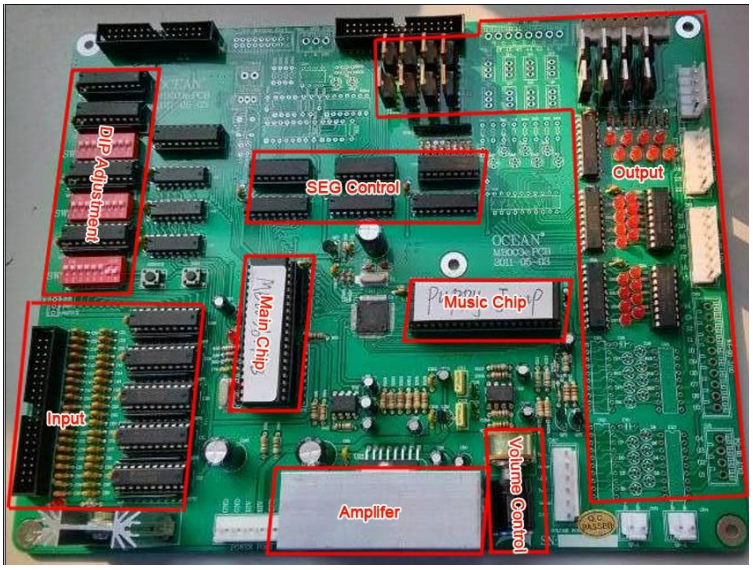
Problem	Solution
Spinner continuously spins and error code "Err 15" appears on the top left digital display.	Check the 3-Pin connector for loose pins or pulled wires on both the male and female plugs. Repair as needed.
Spinner does not spin at all and error code "Err 15" appears on the top left digital display.	Check the 4-Pin connector for loose pins or pulled wires on both the male and female plugs. Repair as needed.
Outside LED "sprockets" do not light.	Check the 6-Pin connector for loose pins or pulled wires on both the male and female plugs. Repair as needed.
Bonus Wheel score displays do not light.	Check the 16-Pin connector for loose pins or pulled wires on both the male and female plugs. Repair as needed.

12. Game Diagrams:

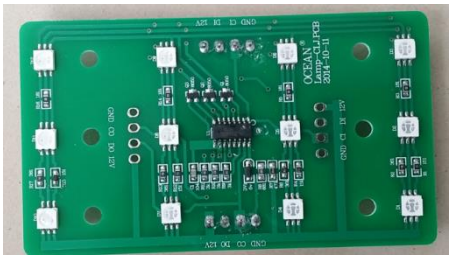
12.1 Electronic Assembly

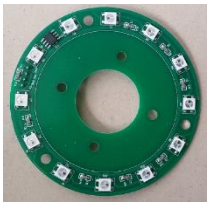

Bonus Turntable Step Motor Drive
Blue Gear Control Board
Red Gear Control Board
Purple Gear Control Board
LED Control Board
Main Board
LED Linking Control Board
Purple Gear Motor Control Board
Red Gear Motor Control Board
Blue Gear Motor Control Board

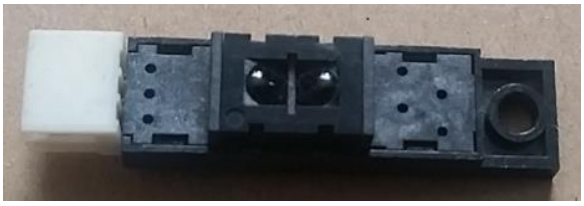
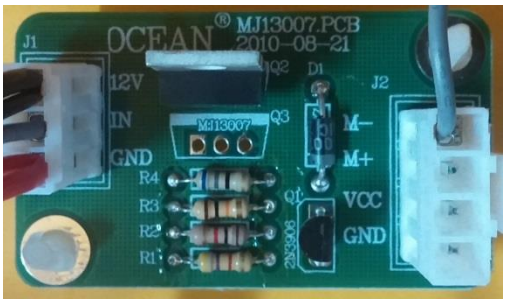
12.2 Main Board Components:



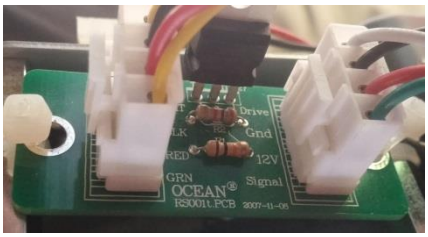
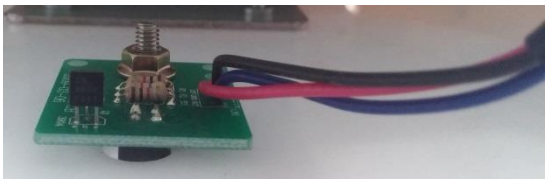
13. Parts List:

DESCRIPTION	PART NUMBER	PHOTO
3 Digit Large LED Control Board	E0801504	
4 Digit Large LED Control Board	E0803001	***No Picture Available***
Main Board	E0803003	
Side Gear LED Board	E0803004	
Side Round and Bonus LED Strip	E0803012	
Motor Driver Board	E0803002	

Gear Motor	E0803006	
Bonus Wheel Motor	E0803007	
Bonus Wheel Motor Driver	E0803008	
Button LED	E0803009	
BONUS Wheel Score LED	E0803011	
Target Gear LED Backlight	E0803010	**No Picture Available**

Game Play Button	E0803014	
Sensor	E0803016	
Solenoid Driver Board	E0803005	
Ball Release Solenoid	P0803001	
12V Power Supply	E0803017	
5V Power Supply	E0803018	
Outside Gear LED Cover	M0803001	

Cover LED Gear Mount	M0803002	**No Picture Available**
Plexi Pushbutton Cover	M0803003	
Plastic Gear – Bottom Plastic Gear – Middle Plastic Gear – Top	M0803009-1 M0803009-2 M0803009-3	
Side Plastic Cover	M0803010	
Side Half Round Cover	M0803011	
Red Ball	M0803012	

Speaker	E0027390	
Two Units LED Linking Board	E0803013	
LED Light Control Board	E0803019	
Ticket Dispenser Board	E0800907-A	
Bonus Wheel Sensor	E0803015	

14. Warranty

BOB'S SPACE RACERS, INC.
90 DAY COIN-OPERATED GAME WARRANTY

1. INCLUDED IN THIS WARANTY Bob's Space Racers®, Inc. warrants to the original purchaser only that the equipment that is the subject of this sale conforms to its specifications, and is free from defects under normal service for a 90 day period from the original date of deliver. This warranty does not include any damages resulting from occurrences listed in paragraph 2 below. This warranty is not transferable under any circumstance. Any claims under this warranty must be received in writing by Bob's Space Racers®, Inc. within 120 days from date of delivery. Within a reasonable time of such written notification Bob's Space Racers®, Inc. will replace or repair any defective component of the equipment or part thereof which fails for reasons other than normal service, use, or wear. Bob's Space Racers®, Inc. reserves the right to request dated proof of purchase by the end user (original purchaser) at any time. Light bulbs are specifically excluded from this warranty and shall be the sole responsibility of the purchaser. Bob's Space Racers®, Inc., within its sole discretion, makes the final determination as to whether to repair or replace any component and whether any such repair or replacement shall be performed where the equipment is located or at it's home facility in Volusia County, Florida, or another facility of its sole choice. Any and all freight charges for the purposes of repair or replacement shall be paid by the original purchaser. All defective parts shall be returned to Bob's Space Racers®, Inc. if requested. Bob's Space Racers®, Inc. does not warrant that the equipment will meet any original purchaser's specific requirements or that the operation of the equipment will be uninterrupted. These remedies are the original purchaser's exclusive remedies for breach of warranty.

2. EXCLUDED BY THIS WARRANTY Bob's Space Racers®, Inc. does not warrant (a) any product, components or parts not manufactured by Bob's Space Racers®, Inc.; (b) damages caused by use of the equipment for purposes other than those for which it was designed; (c) defects caused by failure to provide a suitable installation environment for the equipment; (d) damage caused by unauthorized attachments, modification, or service; (e) damage caused by normal wear and tear or improper power supply; (f) damage caused by accident or disaster such as fires, flood, lightning, and wind; or (g) any other abuse or misuse of the equipment.

3. EXCLUSIVE WARRANTY. THE FORGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OR REMEDIES, WHETHER WRITTEN, ORAL OR IMPLIED. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING OR USAGE OF TRADE ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED.

4. REMEDIES LIMITED. UNDER NO CIRCUMSTANCES, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, SHALL BOB'S SPACE RACERS®, INC. BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR INDIRECT, SPECIAL INCIDENTAL OR CONSEQUENTIAL ARISING OUT OF THE USE OR INABILITY TO USE THIS EQUIPMENT INCLUDING BUT NOT LIMITED TO ANY CLAIM FOR LOSS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF USE OF THE EQUIPMENT, OR ANY ASSOCIATED EQUIPMENT, FACILITIES OR SERVICE, DOWNTIME, THE CLAIMS OR COSTS OF THIRD PARTIES INCLUDING CUSTOMERS AND INJURY TO PROPERTY. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

5. NO OTHER WARRANTIES. Unless modified in writing and signed by both parties, this agreement is understood to be the complete and exclusive agreement between the parties, superseding all prior agreements, oral or written, and all other communications between the parties relating to the subject matter of this agreement. No employee or representative of Bob's Space Racers®, Inc. or any other party is authorized to make any other warranty or to assume any other liability in connection with the sale of its equipment.

6. TIME LIMIT FOR CLAIMS. Any claim for breach of warranty or claims under this warranty must be received in writing by Bob's Space Racers®, Inc. within 120 days following delivery of the equipment.

7. FUTURE CHANGES. Bob's Space Racers®, Inc. reserves the right to reserve, change or modify the construction and design of its equipment or any component part or parts thereof without incurring the obligations to make such changes or modifications in present equipment.

8. ALLOCATION OF RISKS. This agreement allocates the risks of equipment failure between Bob's Space Racers®, Inc. and the original purchaser. This allocation is recognized by both parties and is reflected in the price of the goods. THE PURCHASER ACKNOWLEDGES THAT HE HAS READ THIS AGREEMENT, UNDERSTANDS IT, AND IS BOUND BY ITS TERMS.

9. TO OBTAIN WARRANTY SERVICE. The original purchaser must, at his/her own expense, bring or ship the equipment to an authorized location for service. Additionally, the original purchaser must pay all freight, shipping or transportation charges for the return of the equipment from Bob's Space Racers®, Inc. to the original purchaser. Telephone or write:

Bob's Space Racers®, Inc.
427 15th Street
Daytona Beach, FL 32117
Telephone number: 386/677-0761
FAX: 386/677-0794

CALLING FOR SERVICE

1. When calling for service, please check the service manual first. Many times the answer to your problem has been addressed in this documentation.

2. Please make sure you have the serial number of the game ready when you call.

3. If this is a repeat call, please tell the service technician that you have made a previous call regarding this problem. This way we will be able to retrieve the history on your game allowing us to serve you better and save you time.

4. Please retain proof of purchase for your product. This might be requested for warranty repairs.

5. Please call from the game if possible since we might need you to check certain things on the game while we are on the telephone with you.

IF YOU HAVE ANY QUESTIONS OR COMMENTS, PLEASE CALL OUR SERVICE DEPARTMENT AT

(386) 677-0761
(MONDAY – FRIDAY, 8:30AM – 5:00PM EST, EXCLUDING HOLIDAYS)

(or)

EMAIL QUESTIONS TO: Tech@BobsSpaceRacers.com

(or)

VISIT THE "CUSTOMER SUPPORT" SECTION ON OUR WEBSITE:
WWW.BOBSSPACERACERS.COM